

Applicant's or agent's file reference R. 36311 Wj/Bc		<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/DE00/02950	International filing date (day/month/year) 30 August 2000 (30.08.00)	Priority date (day/month/year) 24 September 1999 (24.09.99)	
International Patent Classification (IPC) or national classification and IPC F02D 41/14			
Applicant ROBERT BOSCH GMBH			

- This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 7 sheets, including this cover sheet.  
  
☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).  
  
 These annexes consist of a total of 3 sheets.
- This report contains indications relating to the following items:
  - ☒ Basis of the report
  - ☐ Priority
  - ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
  - ☒ Lack of unity of invention
  - ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
  - ☐ Certain documents cited
  - ☒ Certain defects in the international application
  - ☒ Certain observations on the international application

Date of submission of the demand 04 April 2001 (04.04.01)	Date of completion of this report 19 October 2001 (19.10.2001)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

## I. Basis of the report

## 1. With regard to the elements of the international application:\*

☐ the international application as originally filed☒ the description:

pages \_\_\_\_\_ 1-12 \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

☒ the claims:

pages \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, as amended (together with any statement under Article 19  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_ 1-13 \_\_\_\_\_, filed with the letter of \_\_\_\_\_ 01 October 2001 (01.10.2001)

☒ the drawings:

pages \_\_\_\_\_ 1/3-3/3 \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

☐ the sequence listing part of the description:

pages \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

## 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).  
☐ the language of publication of the international application (under Rule 48.3(b)).  
☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

## 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority in written form.  
☐ furnished subsequently to this Authority in computer readable form.  
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.  
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_  
☐ the claims, Nos. \_\_\_\_\_  
☐ the drawings, sheets/fig \_\_\_\_\_

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

## III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application.

☒ claims Nos. 11

because:

☐ the said international application, or the said claims Nos. \_\_\_\_\_  
relate to the following subject matter which does not require an international preliminary examination (*specify*):

☒ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. 11  
are so unclear that no meaningful opinion could be formed (*specify*):

See annexe

☐ the claims, or said claims Nos. \_\_\_\_\_ are so inadequately supported  
by the description that no meaningful opinion could be formed.

☐ no international search report has been established for said claims Nos. \_\_\_\_\_

2. A meaningful international preliminary examination cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:

☐ the written form has not been furnished or does not comply with the standard.

☐ the computer readable form has not been furnished or does not comply with the standard.

## IV. Lack of unity of invention

1. In response to the invitation to ☐ or pay additional fees the applicant has:

- ☐ restricted the claims.
- ☐ paid additional fees.
- ☐ paid additional fees under protest.
- ☐ neither restricted nor paid additional fees.

2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is

- ☐ complied with.
- ☒ not complied with for the following reasons:

See annexe

4. Consequently, the following parts of the international application were the subject of international preliminary examination in establishing this report:

- ☐ all parts.
- ☐ the parts relating to claims Nos. \_\_\_\_\_

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-10, 12, 13	YES
	Claims		NO
Inventive step (IS)	Claims	1-10, 12, 13	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-10, 12, 13	YES
	Claims		NO

2. Citations and explanations

US-A-4 841 765 discloses the use of misfire detection to identify plugged injection nozzles (Claim 5, columns 1 and 2) in the combustion chamber (column 1, paragraph 2) of an internal combustion engine and the subsequent cleaning of the identified deposits from the combustion chamber (columns 6 and 2).

However, this does not suggest monitoring the effect of cylinder coordination in order to trigger a cleaning step or a switch from injection in the intake phase to injection during compression and further associated fault-detection steps.

**Supplemental Box**

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: III.1

Even if programs may now be defined in claims in connection, for example, with motor vehicle control and other robotics applications, in which specific physical inputs (for example, engine speed and accelerator pedal position) are processed to give a specific physical output signal (for example, fuel amount), programs are unclear *per se*.

A program *per se* comprises neither the features necessary to state a problem nor those necessary to solve it since, in a robotics application or in motor vehicle control, stating/solving the problem are necessarily associated with physical inputs and a physical output signal.

A novel and inventive method for controlling fuel amount as a function of engine speed and accelerator pedal position could use precisely the same program algorithm as that used, with entirely different physical inputs and physical output signals, to control a radio telescope.

Therefore, programs should be considered clear only when defined in conjunction with their physical inputs and physical output signals.

## Supplemental Box

(To be used when the space in any preceding boxes is not sufficient)

Continuation of: IV.3

Claim 1 defines cylinder coordination monitoring to detect deposits.

However, in Claim 2 (second alternative) misfire detection is used to identify deposits (as in the prior art), specific fault-localizing steps then being taken.

No common special features not known from the prior art can be discerned in independent Claims 1 and 2.

## VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

Contrary to PCT Rule 5.1(a)(ii), the description does not cite US-A-4 841 765 or indicate the relevant prior art disclosed therein.

Pursuant to PCT Rule 5.1(a)(iii), the description should be brought into line with the claims.



## VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

Page 13, last paragraph, and page 3, paragraph 2, are evidently unclear.